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## DOCUMENTS, REPORTS, AND LEGISLATION

### Industries and Commerce

The federal Department of Commerce has recently issued the following pamphlets in the Special Agents Series: No. 91, *Pineapple-Canning Industry of the World*; No. 92, *Canned-Goods Trade in the Far East*; No. 93, *Canned-Tomato Industry in Italy* (Sept. 30, Dec. 1, 1914, Feb. 1, 1915, pp. 43, 78, 23) by J. Alexis Shriver; and No. 96, *Dyestuffs for American Textile and Other Industries*, by Thomas H. Norton (Mar. 20, 1915, pp. 57).

The federal Department of Commerce has issued an exhaustive report on *The Pottery Industry* discussing the cost of production in the earthenware and china industries of the United States, England, Germany, and Austria (Washington, 1915, pp. 709). The field studies were supervised by Mr. Frank J. Sheridan, special agent, with whom were associated a group of other experts. In addition to costs, the report includes vital and sociological statistics and data relating to the history of the industry. Included is a compilation of all tariff rates affecting the industry since the first tariff law of 1789. One section is devoted to a discussion of the productiveness of the industry of American workmen as compared with that of workmen in other countries; and another deals with pottery occupational diseases. It is shown that in a number of potteries in the United States the cost of production ranges from 14 to over 30 per cent higher than in competitive English potteries.

The Bureau of Crop Estimates of the Department of Agriculture has issued a pamphlet on the *Government Crop Reports: Their Value, Scope, and Preparation*, being Circular No. 17, revised (Jan. 20, 1915, pp. 27).

In collaboration with the Bureau of Markets, this bureau has also issued a bulletin on *Inland Boat Service: Freight Rates on Farm Products and Time of Transit on Inland Waterways in the United States*, by Frank Andrews (pp. 36); and *The Production and Consumption of Dairy Products*, by Eugene Merritt (Feb. 15, 1915, pp. 19).

The Office of Markets and Rural Organization has issued a pamphlet on *Demurrage Information for Farmers*, by G. C. White (Mar. 19, 1915, pp. 27).

The Bank of the Manhattan Company has published an illustrated pamphlet on *Ships and Shipping of Old New York* (pp. 62).

### Corporations

From the Bureau of Railway Economics has been received Bulletin No. 73, *The Arguments For and Against Train-Crew Legislation*, a revision of Bulletin No. 53, originally published in 1913 (pp. 44); and Bulletin No. 75, *Statistics of Railways, 1903-1913, for the United States* (pp. 81).

The bureau has also prepared two bibliographical lists: *List of References on Maximum Railway Passenger Fares* (typewritten, Apr. 12, 1915); and *Supplement to List of References to Legislation on Minimum Train Crews and Maximum Length of Trains* (typewritten, Apr. 10, 1915).

The *Report of the Joint Committee on Valuation of Ohio Public Utilities under Order No. 176 of the Public Utilities Commission of Ohio* (1914, pp. 42) is devoted to a discussion of the use to be made of inventories and appraisals, reproductive cost, valuation of rights-of-way, water rights, buildings, overhead costs, depreciation, etc.

The National Civic Federation has authorized to be published a *Draft Bill for the Regulation of Public Utilities with Documents Relating Thereto* (Oct. 23, 1914, pp. 124).

The Economic Club of San Francisco has published as No. 3 of Vol. 1 of its "Discussions" a pamphlet on *Regulation and Control of Public Utilities* (July 28, 1914, pp. 65).

Two addresses by Samuel O. Dunn, editor of the "Railway Age Gazette," on *Some Often Overlooked Points regarding Government Ownership and Government Regulation of Railway Operation*, have been issued by the Traffic Club of New England (Boston) and the Railway Club of Pittsburgh respectively.

### Labor

THE OPERATION OF THE MINIMUM WAGE LAW IN THE STATE OF WASHINGTON. The legislature of the state of Washington in 1913 passed an act fixing minimum wages and standards of labor for women and minors. It provided for the appointment of a commission to investigate wages, whose orders should become effective sixty days from date of issue. It makes it unlawful for any employer in an occupation reported upon to employ any female over eighteen years of age for a less wage than that prescribed in the order or under conditions pro-

hibited for women in that occupation. It is provided, however, that the commission may, through its secretary, issue a special license to a woman physically disabled, or to one crippled by age or otherwise, or to an apprentice in said occupation, authorizing the employment of such licensee for a wage less than the minimum wage prescribed. But the commission must determine the wage at which the licensee may work and the duration of the apprenticeship.

The act provides protection for those testifying before the commission by making it a misdemeanor to discharge any person because such employee has testified or may testify in any investigation; and upon conviction of such misdemeanor the person shall be fined a sum not less than \$25 or more than \$100. Violation of the order of the commission is also made a misdemeanor and is punishable by a fine not less than \$25 or greater than \$100.

In order to avoid collusion between employer and employee or coercion of the employees, it is provided in the act that any person employed for less than the minimum wage prescribed without a license from the commission is entitled to collect the difference between the agreed wage and the wage prescribed in that occupation plus attorney fees fixed by the court, notwithstanding any agreement that may exist between the employer and employee.

All questions of fact arising under the act are determined by the commission. An appeal may be taken to the superior court on a question of law only.

The Minimum Wage law became effective June, 1913. Soon afterward the commission was appointed, and held its first meeting the latter part of July. In order that it might have accurate information concerning the industries of the state, a survey was authorized covering wages, conditions of labor, costs and standards of living in certain industries. This survey consumed eight months. The results are given in a report issued March, 1914, under the title *Wages, Conditions of Work and Cost and Standards of Living of Women Wage-Earners in Washington*.

With these data at hand the commission called the first conference to consider wages and conditions of employment in the mercantile establishments. The membership of this conference, as in the case of all subsequent ones, was composed of representatives from employers, employees, and the public. The conference unanimously recommended the adoption of a minimum wage of \$10 per week in all mercantile establishments; that female employees be given one hour for lunch; and that proper toilet facilities, rest rooms, and ventilation be pro-

vided in all mercantile houses where women are employed. The commission made this order and in addition fixed the wages for persons under eighteen at not less than \$6 per week, which rate, with some modifications, they made applicable to apprentices in all industries in which the minimum wage has been fixed.

Manufacturing establishments were considered at the second conference and recommendation was made to establish a minimum wage of \$8.90 per week and that proper heating facilities be provided and provision made for a rest room in case of illness or fatigue. The third conference dealt with laundries and dye works. This meeting was not as harmonious as the two preceding ones had been, but finally agreed on a minimum wage of \$8.50 per week which the commission promptly rejected on the ground that the statistical survey made preliminary to the calling of the conference showed that the cost of living of women employed in the laundries and dye works was more than the conference had allowed. The commission then called another conference, composed of new members, which recommended \$9 as the minimum wage, adequate toilet facilities, and not less than one hour for noon lunch; except where two thirds of the employees agreed to a shorter period and then not less than thirty minutes. This report the commission accepted, striking out the provision relating to lunch, which the attorney general held could not be delegated to the employees. In addition to the \$6 wage for employees under eighteen, the commission prohibited employment after 7.30 p. m. and the assignment of any woman under eighteen to the position of "shaker" in any laundry establishment.

The fourth conference, after considering employment in the telephone and telegraph business, recommended a \$9 minimum wage, a full hour for lunch, adequate toilet facilities and rest rooms. In this conference the importance of representatives of the public became apparent. The employers and employees agreed upon a wage high enough to cover the necessary expenses of girls living at home, disregarding the requirements of the minority who were dependent entirely upon their income for support. The members of the conference chosen from the public protested against the principle of estimating the necessary cost of living, contending that to fix the wage on that basis was in fact subsidizing the industry, whereas, in their judgment, every occupation ought to bear its own burden of cost. The result of the discussion was the recommendation of the \$9 wage as stated above. The commission issued the further order governing employees under eighteen, prohibiting them from being employed before 6 a. m. or after 9 p. m., either as operators or messengers.

At the fifth conference, which considered hotels and restaurants, considerable discussion arose over the necessary expenses to be allowed, so varied were the different occupations coming within the scope of the conference. The agreement was finally reached that a wage of \$11 per week should be provided for waitresses and \$9 a week for all other employees. It was further stipulated that not more than \$3.50 per week should be deducted from these sums for board and not more than \$2.50 for room; that adequate toilet facilities be provided; that where uniforms were necessary the employer be required to furnish them; and that the employment of women in cigar stands be prohibited. Before the commission could act upon the recommendations of the conference the Washington Hotel Men's Association entered a formal protest against the \$9 wage for all employees except waitresses and simultaneously the women then working in cigar stands protested against the prohibitive order affecting them. A hearing of the hotel men was called by the commission, but, as no agreement was reached, the matter was postponed at their request until they could secure additional data. The commission, upon investigation, concluded that it was beyond their power to prohibit the employment of women not minors in a lawful occupation. This is the only one of the five occupations considered in which no order has been issued. After the hotel men have presented their case the commission may issue an order or call another conference.

The last conference, held the latter part of December, took up the employment of office help. A wage of \$10 was recommended for clerical occupations and a noon luncheon period of not less than one hour. The order was issued to that effect by the commission and became operative February 20, 1915. This was the only conference in which all parties to the conference agreed upon the wage scale without special session of a committee of one representative from each of the three groups. In all the former conferences the estimates of necessary expenses submitted by the employers and the employees had differed widely and an agreement could be effected only by a compromise arrived at in special session.

The commission considers one of the greatest benefits of the conferences to be the better understanding that has been reached by both the employers and employees. "The most hopeful phase of the whole vexing problem may be found in the breaking up of old prejudices; the giving up of hurtful customs; the recognition of justice and the acceptance of the larger view-point."<sup>1</sup>

<sup>1</sup> *First Biennial Report of the Industrial Welfare Commission*, p. 60.

The whole question of apprenticeship has entered into every conference. Since the responsibility of dealing with this vexing problem was definitely assigned to the commission, no recommendations were made by the conferences, but the discussions in those meetings brought out many points which enabled the commission to deal intelligently with the matter. The Minimum Wage law made provision for apprentices by empowering the commission to issue a special license permitting those unable, either through physical incapacity or because they were not trained sufficiently to do the work, to be employed for less than the prescribed minimum wage prevailing in that industry. While this modification was necessary to relieve the rigidity of the law and highly desirable in many cases, it presented possibilities of evading the law fraught with great danger. It was feared that employers would discharge a large number of their employees as soon as they had finished their period of apprenticeship and hire new ones, especially in that work which did not require great skill or where the necessary training could be secured in a short time.

To avoid this possible defeat of the purpose of the law, the commission is working out a system of control by the issuance of licenses to a limited number in each establishment, under which every person coming under the provisions of the law must either be receiving the minimum wage or have a permit from the secretary of the commission. In order to estimate intelligently the number of apprentices to be allowed, the period of indenture, and the wage to be paid, a careful study was made of each separate industry.

In the larger mercantile establishments no license is valid where there are more than 17 per cent of the total adult females as apprentices nor where more than half the apprentices are receiving less than \$7.50 per week. The wage for apprentices is \$6 per week for the first six months and \$7.50 for the next six with full minimum wage after that. In the millinery and dressmaking trade, where the apprentice is worth very little at the start and has usually in the past received no wage at all, she is paid \$3 per week for the first 17 weeks, \$5 for the next 17 weeks, \$7.50 for the last eighteen weeks, and after that full wages. Manicuring apprentices receive for a period of 13 weeks \$1.50 per week, then \$4 for the second 13 weeks, \$6 for the third 13 weeks, and \$8 for the last 13 weeks. In the telephone business a distinction is made between the city systems and those of the smaller places. The beginner in the larger system gets \$6 per week for the first 3 months, \$6.60 for the next 2 months, \$7.20 for the next 2 months, \$7.80 for the last 2 months, and then the regular wage of

\$9 per week. In the smaller places the apprenticeship period is divided into two parts with a wage of \$6 per week for the first 4 months and \$7.50 for the last 5 months, the total period of apprenticeship being but 9 months. An apprenticeship of 6 months is allowed in the laundry establishments at a wage of \$6 per week for the first 3 months and of \$7.50 for the last 3 months. A maximum number of apprentices is fixed at 25 per cent of the total number of women, though in fact the number has run only about 8 per cent thus far.

In manufacturing establishments the problem is more difficult because of the differences in the various operations, some of which can be easily mastered while others require much longer time to learn, and the period of apprenticeship must be modified to meet each case. To do this the commission carried on a rather minute study of the different phases of manufacturing within each establishment, and as a result of this investigation licenses were issued permitting employment at wages ranging from \$6 to \$8.90 per week, with periods of apprenticeship lasting from 6 weeks to one year. Apprentices in office work are assumed to have some training for the line of employment they are to take up and for that reason the period is limited to 6 months at a weekly wage of not less than \$7.50. It is hoped that an efficient system of vocational training may be established in the state in the near future, which will minimize the necessity of granting licenses, but until that is done some provision for the learner must be made. If an applicant has had training, though it is not sufficient to entitle her to the minimum wage, an allowance is made for that training by reducing the period of apprenticeship proportionately.

There has been no unusual reduction in the number of women employed in the industries of the state as a result of the minimum wage, and there has been no apparent leveling up of wages. There has been no tendency to displace the higher paid labor with cheaper help nor any disposition to bring wages down to the minimum. A statistical study of the number in employment, before the law went into effect and after, shows in the mercantile establishments, the laundries, and telephone offices that there has been a total decrease of 66 in the number employed in the year. In the mercantile establishments there was a decrease of 87; in the laundries a decrease of 30; but in the telephone an increase of 51. There is nothing in these figures that can not easily be accounted for by the depression in business during the year; and, further, they show that the decrease was entirely among those getting less than the minimum wage.

According to the survey made, before the law went into effect 60



per cent of the women employed in this state were getting less than a living wage. In other words, the wages of about 60 per cent of the women employees have been raised without any serious difficulty, and it has been done in the face of bad business conditions generally throughout the Northwest.

Before the law went into effect there was a wave of apprehension and disapproval among employers, but that has disappeared. Where the industry has been able to pass on the added cost to the consumer there has been least friction, but in some of the trades that come in direct competition with Eastern firms there has been a very satisfactory adjustment. A Seattle garment-maker speaks in very high terms of the improvement of the amount and grade of the work done by the higher paid employees. Notwithstanding the fact that they had raised the wages fully a dollar a girl, conditions had greatly improved in their employment and they were doing better financially than they had done before. "I did not know, until the minimum wage went into effect that it paid to employ higher priced women workers, but it does," was the testimony of the manager of a ten-cent store. The operation of the law has seemed to have a wholesome effect upon those women who did not care and were willing to take a low wage rather than make an effort. They now see that if they are to have any employment they must make themselves sufficiently useful to the employer.

The commission early made it plain that it meant to enforce the law. In the case of a Seattle laundry operator who discharged a girl for acting on the first laundry conference, it demanded her reinstatement which the employer refused. A warrant was sworn out and he was arrested and tried, found guilty and fined \$100. His attorney gave notice of appeal, but so far none has been taken. Since then no trouble of that kind has been experienced.

As a result of the discussions carried on in the six conferences a very interesting table has been compiled. It will be remembered that the basis of the conference discussions was the preliminary survey in which some 30,000 blanks were sent out to women and employers throughout the state. A large percentage of these were filled out and returned. From these data and from the discussions involving the estimates of employers and employees and the public, the following table of living expenses in the various industries of the state has been compiled:

AVERAGE ANNUAL EXPENDITURES OF SELF-SUPPORTING WOMAN  
AS DETERMINED BY SIX CONFERENCES<sup>2</sup>

	Mer- cantile	Fac- tory	Laun- dry	Tele- phone and tele- graph	Hotel and restau- rant	Office	Total aver- age of all confer- ences
Meals and room .....	\$302 92	\$242 09	\$254 75	\$266 93	\$286 46	\$286 38	\$273 25
Shoes and rubbers .....	7 12	7 98	10 45	12 23	11 71	9 66	9 86
Repairing of shoes .....	3 42	1 46	2 20	1 55	2 06	1 36	2 01
Stockings .....	2 17	2 38	2 75	3 32	4 45	2 10	2 86
Underwear .....	3 77	4 37	5 42	5 17	6 26	4 48	4 81
Petticoats .....	2 17	4 13	4 33	3 48	4 71	4 00	3 80
Suit .....	17 63	21 36	25 16	21 24	28 37	22 84	22 77
Coat .....	10 23	11 34	17 25	10 48	16 14	15 23	13 45
Dresses and aprons .....	14 63	10 81	11 73	10 19	25 44	19 38	15 24
Shirtwaists .....	4 88	4 97	6 75	10 17	14 60	4 80	7 61
Handkerchiefs .....	1 16	1 68	1 07	1 85	1 84	1 52	1 52
Corsets .....	2 17	4 27	4 75	3 82	7 36	3 68	4 34
Corsetwaists .....	1 24	1 89	2 41	1 56	2 97	2 12	2 03
Gloves .....	2 33	2 48	2 37	4 48	3 80	3 04	3 17
Neckwear .....	1 00	1 54	1 00	1 02	1 80	1 92	1 38
Hats .....	6 75	7 00	10 00	12 39	9 81	9 37	9 22
Umbrella .....	1 40	2 20	1 37	1 30	1 87	1 33	1 55
Repair of clothing .....	3 83	4 41	2 25	2 24	2 38	4 64	3 29
Laundry .....	21 07	15 82	10 81	8 30	59 93	14 42	21 73
Medicine and dentistry .....	25 42	17 50	12 33	9 89	11 82	12 82	14 96
Street-car fare .....	32 39	26 84	30 95	28 63	13 05	27 59	26 62
Newspapers and magazines .....	11 00	3 06	2 83	2 68	4 07	3 68	4 55
Stationery and postage .....	4 84	4 48	2 25	2 98	2 91	3 19	3 61
Association dues .....	3 78	5 98	2 41	1 40	5 71	1 07	3 39
Insurance .....	3 05	7 56	7 28	1 12	3 80	12 66	5 91
Vacation expenses .....	10 54	14 28	9 66	9 17	13 56	16 02	12 21
Amusements .....	9 86	10 90	7 41	12 10	7 23	11 21	9 80
Church and other contributions .....	5 12	5 39	4 90	4 83	4 60	7 69	5 43
Incidentals .....	4 71	14 54	10 66	13 16	13 49	10 82	11 23
Averages .....	\$520 00	\$462 80	\$468 00	\$468 00	\$572 00	\$520 00	\$501 80

The Minimum Wage law has been in operation only a little over a year and during that brief time has met with a very cordial reception, both by the employer and the employee. The commission does not feel that it has solved all the problems connected with fixing a minimum wage, but it does feel that it has made progress; that a minimum wage is feasible; and that good results may be obtained without detriment to business. Through the agitation in connection with the administration of the law, the state has been aroused to its responsibility and has given some attention, through the department of education, to the matter of vocational training. Washington has, perhaps, some advantages as a field for experimenting with a minimum wage for women and minors since it has not the number of women employed that some of the older states have.

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Recent bulletins received from the federal Bureau of Labor Statistics are as follows:

No. 147, *Wages and Regularity of Employment in the Cloak, Suit,*

<sup>2</sup> *First Biennial Report, Industrial Welfare Commission*, p. 23.

*and Skirt Industry. With Plans for Apprenticeship for Cutters and the Education of Workers in the Industry* (June 13, 1914, pp. 197);

No. 161, *Wages and Hours of Labor in the Clothing and Cigar Industries 1911 to 1913* (Oct. 24, 1914, pp. 77);

No. 163, *Wages and Hours of Labor in the Building and Repairing of Steam Railroad Cars: 1907 to 1913* (Oct. 28, 1914, pp. 58);

No. 165, *Lead Poisoning in the Manufacture of Storage Batteries* (Dec. 15, 1914, pp. 37).

Information in regard to the new federal employment offices may be obtained from the Division of Information of the Bureau of Immigration of the Department of Labor, Washington.

The congressional report on the *Colorado Strike Investigation* has been published as House Document No. 1630, 63 Cong., 3 Sess. (March 2, 1915, pp. 53).

The Rockefeller Foundation has published pamphlets entitled *Information Furnished by the Rockefeller Foundation in Response to Questionnaires submitted by the United States Commission on Industrial Relations* (pp. 103); and *Statement of John D. Rockefeller, Jr., before the United States Commission on Industrial Relations* (Jan. 25, 1915, pp. 11).

The REVIEW has received briefs of the respondents in the case of Frank C. Stettler against the Industrial Welfare Commission of the state of Oregon, filed before the supreme court of Oregon and the Supreme Court of the United States, for 1913 and 1914 respectively (pp. 207; 96, 12). The appendix, before the supreme court of Oregon, was prepared by L. D. Brandeis and Josephine Goldmark, publication secretary of the National Consumers' League.

The Bureau of Labor Statistics of Connecticut has issued a special report on *The Conditions of Wage-Earning Women and Girls*, prepared by Miss Charlotte M. Holloway (pp. 139).

The *Report of the Convict Labor Commission to the General Assembly* of Connecticut (Hartford, 1915, pp. 90) contains data concerning the various methods of employing convict labor pursued not only in different states in our own country but also in some foreign countries. Recommendations are made as to changes.

The Industrial Commission of Ohio (Columbus), beginning with December, 1913, has issued a series of bulletins and also a second series of documents under the general title of "Reports of Depart-

ment of Investigation and Statistics." The bulletins are published monthly. No. 5 (Oct. 1, 1914) is devoted to the subject of *Medical Aid under the Workmen's Compensation Act*; No. 6 has the title *Lump Sum Awards. Uses to which a Few have been Put*; No. 7 deals with the decisions of the commission with regard to compensation cases; and Bulletin No. 2, Vol. 2 (Feb. 1, 1915), contains the first annual report made by the Industrial Commission. The subjects of the several reports of the Department of Investigation and Statistics are as follows: No. 1, *Wages and Hours of Labor of Women and Girls Employed in Mercantile Establishments in Ohio in 1913* (pp. 33); No. 2, *Accident Claims Filed under the Workmen's Compensation Act of Ohio, March 1, 1912 to December 31, 1913* (pp. 55); No. 3, *Statistics of Mines and Quarries in Ohio, 1913* (pp. 96); No. 4, *Industrial Accidents in Ohio, January 1 to June 30, 1914* (pp. 324); and No. 5, *Union Scale of Wages and Hours of Labor in Ohio, May 15, 1914*.

The Commission of Immigration and Housing of California has published a *Report on Unemployment*, a supplement to its first annual report (Dec. 9, 1914, pp. 73).

The paper of H. T. Haines, commissioner of immigration of Utah on *Utah's Minimum Wage Law for Females*, which went into effect in 1913, has been reprinted as a separate (pp. 16).

The argument of Mr. Rome G. Brown adverse to the establishment of a legal minimum wage has been printed as a pamphlet (Minneapolis, pp. 11).

Reed College has published a bulletin on *A Study of the Unemployed in Portland, Oregon*, prepared by Arthur Evans Wood (No. 18, Dec., 1914, pp. 32).

### Money, Prices, Credit, and Banking

THE EQUATION OF EXCHANGE FOR 1914 AND THE WAR. The equation of exchange as calculated for 1914 is:<sup>1</sup>

$$\begin{array}{rcl}
 \text{Circ. of money (33)} & + & \text{Circ. of checks (416)} = \text{Value of goods bought (449)} \\
 \underbrace{\text{Money} \times \text{its velocity}} & + & \underbrace{\text{Deposits} \times \text{their veloc.}} = \underbrace{\text{Trade} \times \text{scale of prices}} \\
 \underbrace{\begin{array}{l} M \times V \\ 1.94 \times 17 \end{array}} & + & \underbrace{\begin{array}{l} M' \times V' \\ 8.89 \times 47 \end{array}} = \underbrace{\begin{array}{l} T \times P \\ 432 \times 104 \text{ per cent} \end{array}}
 \end{array}$$

The large diagram gives the comparisons between the figures for

<sup>1</sup> As in former articles the numbers for *M* and *M'* are expressed in *billions* of dollars and *T* in *billions* of units per year.

1914 and those for 1913 as well as previous years.<sup>2</sup> The heavy areas are used in place of the symbolization of money, deposits, and trade, employed in previous years. This improvement was suggested to me by reading Brinton's *Graphic Methods*. The black areas are more easily comparable than the old symbols, both because they are closer together and because they are comparable in length alone.

The lever arms of these areas or weights, representing  $V$ ,  $V'$  and  $P$ , are also more easily comparable than in the diagrams previously published, because of their being brought closer together. The dotted lines connecting the centers of the black areas evidently constitute plotted curves showing the increase or decrease in the scale of prices

<sup>2</sup>The methods by which the data in this article have been worked out are similar to those employed in the articles of previous years. For details the reader is referred especially to the *AMERICAN ECONOMIC REVIEW*, June, 1912, pp. 311-319.

As first computed, the two sides of the equation of exchange for 1914 showed a discrepancy of a little over 5 per cent, which is considerably more than usual. This discrepancy was, as in previous years, corrected by slight mutual adjustments in the figures for the six factors concerned.

We have, this year, for the first time, as a possible check on the computations of the equation of exchange, the calculations for nearly two years, made by the Committee on Clearing Houses of the American Bankers Association, through its secretary, Mr. O. Howard Wolfe. These show between the part of 1913 for which statistics are available (which begins March 12) and the corresponding period in 1914, a reduction in "checks charged" of 3 per cent as against a reduction in our calculations for  $M' V'$ , based on clearing statistics (for full years) of  $5\frac{1}{2}$  per cent. This discrepancy of  $2\frac{1}{2}$  per cent between the two ways of measuring changes in  $M' V'$  is not inconsiderable; but any adjustment required thereby in the equation of exchange, when properly distributed over the different factors, would be very slight. For this reason and for other technical reasons—especially the fact that, as yet, the figures for checks charged cover too small a territory (comprising only about 7 per cent of the total business of the country) to be representative of the country's credit operations—I have not thought it necessary to attempt any numerical corrections based on the figures for checks charged. In the absence of any reliable guide since 1909 as to the velocity of circulation of money and because the process of extrapolation which hitherto has been used is becoming increasingly unreliable with the lapse of time, this velocity has been assumed to fluctuate in tune with the fluctuations of the velocity of circulation of deposits subject to check. The figures for the velocity of money are, therefore, very hypothetical and subject to a possible error, perhaps of 25 per cent, although, fortunately, this error would not greatly affect the other magnitudes in the equation.

My thanks are due to Royal Meeker, Commissioner of Labor Statistics, for advance information in regard to the index number of wholesale prices for 1914 and for the separate months of the year.

and in the velocities of money and deposits exactly as in the case of any ordinary plotted curves.

Comparing 1914 with the previous year we note a shrinkage in the volume of trade amounting to about 5 per cent, a very slight fall in the price level, a shrinkage in the velocity of deposits of about 13 per cent, and an assumed equal shrinkage in the velocity of money.

In contrast with these contractions we observe expansions in the quantity of money in circulation and in the volume of bank deposits amounting to about 9 per cent and 8 per cent respectively.

Inasmuch as the above-named disturbances are undoubtedly due for the most part to the European war, it has seemed advisable to calculate separately the equation of exchange for various periods in 1914 before and after the outbreak of the war in August. I have, therefore, constructed a second diagram to show the condition of the equation of exchange near the six dates<sup>3</sup> for which the Comptroller's data for national banks are available. Three of the dates were before and three after the outbreak. The data given by the Comptroller for money and deposits on these dates are taken as representative of the six respective months in which they fall. For these months I have estimated, so far as possible, all the six magnitudes<sup>4</sup> in the equation of exchange.

It will be observed that for the three periods which preceded the war, there were comparatively small fluctuations in the six magnitudes of the equation of exchange, but that, following the outbreak of the war, violent fluctuations were observable.

<sup>3</sup>The dates are January 13, March 4, June 30, September 12, October 31, and December 31.

<sup>4</sup>As shown in the heading of this diagram, all the magnitudes which are rates per unit of time, *i.e.*, the volume of trade and the velocities, *i.e.*,  $T$ ,  $V$  and  $V'$ , are here expressed on a *per annum* basis, not a *per month* basis.

In working out the statistics for  $M$  and  $M'$  for the various periods of 1914, it was assumed that the money and the deposits subject to check in other than national banks, maintained at all times the same ratio to the corresponding magnitudes of national banks as they did in June, the only date for which figures for *all* banks are available.

The volume of trade ( $T$ ) for the six respective months has been computed indirectly, *i.e.*, from the other factors in the equation of exchange. There seems to be no more direct way of calculating its seasonal fluctuations.

The fluctuations in checks charged, according to the statistics of Mr. Wolfe, mentioned in the first footnote, do not correspond well with the fluctuations obtained from the statistics of clearings, nor with the results of common observation. This is doubtless to be ascribed to the (as yet) small and therefore unrepresentative character of the returns.

The volume of trade showed a sudden fall and subsequent recovery, the fall being almost 25 per cent between June and September, and the recovery being exactly equal, though slower.

On the other side of the equation, the outbreak of war was followed by a sudden contraction in the velocities<sup>5</sup> of circulation, amounting to 20 per cent at first, which as in the case of trade, was followed by a complete recovery. This slowing down of the velocity of money is what is commonly called "hoarding."

The quantity of money in circulation which, before the war, corresponded closely to its magnitude in 1913, immediately began to expand beyond the June figures, September showing an increase of 10 per cent, October 20 per cent, and December nearly 40 per cent. On the other hand, the volume of deposits subject to check executed an exactly opposite though somewhat more gradual movement, contracting relatively to June, 1 per cent, 7 per cent, and 17 per cent in September, October, and December respectively.

The changes in the scale of prices were comparatively small. There was an increase of 5 per cent between June and September, after which time there was a recession to the original scale.

By the end of the year the only factors which had not recovered substantially the condition from which they were disturbed in June were money and deposits, the former having been greatly expanded and the latter greatly contracted.

These changes are closely associated with the changes in a third magnitude, *viz.*, the money held in the banks, *i.e.*, the (true) bank reserves, which decreased (with fluctuations) from 1.67 billions in June to 1.19 billions in December, namely, 30 per cent.

The following table shows this and other magnitudes not contained in the equation, but closely connected therewith.

	Money in banks (in billions)	"Virtual" velocity of circulation of money in circulation and <i>banks</i>	Cash exchanges as percentages of total circu- lation
January	1.68	151	6.6
March	1.65	140	6.7
June	1.67	138	6.3
September	1.59	110	6.9
October	1.65	116	7.9
December	1.19	132	10.0

<sup>5</sup> Just as for the year 1914 (compared with 1913), so for the six periods within it, the change in the velocity of *money* was arbitrarily assumed to have been proportional to changes in the velocity of *deposits*.

The first column shows the drain, just mentioned, on reserves; the second shows the sudden fall and gradual subsequent recovery of what I have called the "*virtual velocity of circulation*" of money, *i.e.*, the quotient obtained by dividing the total circulation of media of exchange, *i.e.*, of money and *checks*, by the total money in use, *i.e.*, what is commonly, though improperly, called money in circulation—money not only in pockets and tills for commercial purposes, but also that *in banks* (though not including what is in the United States Treasury). The third column shows the percentage of exchange work done in cash.<sup>6</sup> It shows an increase from  $6\frac{1}{2}$  per cent before the war to 10 per cent in December, *i.e.*, an increase of 50 per cent. In other words, the use of credit currency in business sank from a normal  $93\frac{1}{2}$  to 90 per cent.

The changes, both in the first and last columns of the above table, show, in different forms, the contraction of credit and the shift toward a cash basis. The recovery from this displacement is only now beginning and will require presumably a large part of the year 1915 before the normal balance is regained.

To summarize, we may note four chief disturbances in the six magnitudes of the equation of exchange: (1) a sudden slowing down followed by a gradual recovery in the volume of trade, on the right side; (2) a sudden slowing down followed by a gradual recovery in the velocities of circulation on the left; (3) a progressive contraction of deposits; (4) a progressive expansion of money in circulation.

Evidently (1) and (2), being similar movements on opposite sides of the equation, nearly offset each other, as do (3) and (4), being opposite movements on the same side of the equation. Thus the scale of prices is left relatively unchanged.

We may, therefore, group the four phenomena into two: (a) a sudden slowing down followed by a gradual recovery in the rates at which both goods and the means of paying for them change hands; and (b) a progressive shift away from credit toward cash.

The equation of exchange simply records these phenomena. It does not, of itself, reveal the causes which produced them. But the phenomena conform in a very simple manner with the theory that they are due to the shock of war.

The relations between the factors in the equation of exchange are elastic and any sudden shock expends most of its force in disturbing the relations among these factors.

The sudden slowing down and subsequent gradual recovery in the

<sup>6</sup>This percentage is simply the ratio  $MV \div (MV + M'V')$ .



movement of both trade and money suggest the action of shock absorbers or rubber tires on an automobile. They represent the first points where the shock impinges before it can be distributed elsewhere. The shock of war first caused the public to "stop, look, and listen." Those who had goods held them and those who had means of payment held them also.

The next mechanisms to be affected were the quantities of money and deposit currency. They are like the large springs on an automobile which take more time than the shock absorbers to execute their movements.

Thus there has been a twofold absorption of the shock, first by  $T$ ,  $V$ , and  $V'$ , and afterward by  $M$  and  $M'$ .

Expressing the matter in psychologic terms, the impulse to "play safe" not only explains the arrest of trade operations, but also explains the displacements in the volume of credit and cash. The sudden hoarding produced by the war in turn produced a sense of a "money famine." This led to the withdrawal of cash from banks and led the banks to curtail loans and reduce their deposit obligations. It also led the public and the government to undertake various expedients to increase the quantity of money. The increase in the money supply was thus a case of "elastic currency." The slow recoil of the elastic spring is still in process of taking place.

The scale or level of prices ( $P$ ) may be likened to the body of the automobile which was thus doubly protected from the effects of the jolt. So far as the scale of prices,  $P$ , enters into the readjustments, it was quite as much in the role of cause as in that of effect. The sudden rise of prices in September was doubtless in part a speculative marking up of goods with the expectation that the market would justify the rise. A British banker, Gellender,<sup>7</sup> shows that such an upward movement very commonly follows the outbreak of war. Afterwards, when producers saw that they had overshot the mark, prices receded.

In short, there was a mutual give and take among all of the factors in the equation of exchange.

These changes correspond to those discussed *a priori* in my *Purchasing Power of Money*.<sup>8</sup> Ordinarily, and in the long run, the scale of prices reflects directly a change in any other factor of the equation, just as ordinarily and in the long run the body of the automobile follows the ups and downs of the road. But in periods of

<sup>7</sup> *Publications of the (British) Institute of Bankers*, November, 1901.

<sup>8</sup> See especially, pp. 70, 71, 161-168.

transition and adjustment, such as those following the sudden shock of war, the chief effects are not so much between prices and the other factors as among these other factors themselves; just as in passing over a sudden obstacle the chief effect is to disturb not the body of the automobile but the relative positions of the sustaining parts.

Needless to say, the prognostications made a year ago have in many respects not been fulfilled. The war has upset all calculations. In the light of the present situation the outlook seems to be: (1) a general shift back from cash to credit following the return to the pre-war conditions already accomplished in the volume of trade and velocities of circulation; (2) a further expansion in the six factors of the equation of exchange; (3) a still further expansion after the war.

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THE REVISION OF THE NEW YORK STATE BANKING LAW. In June, 1913, George C. Van Tuyl, Jr., superintendent of banks of the state of New York, appointed a commission<sup>1</sup> to look into the banking conditions of the state and to make a thorough revision of the law relating to banks. This commission conducted many public hearings; sought information from banking experts in this state and in other states; made a careful study of private banking conditions, rural credits, and other special banking problems of the state; and, finally, on February 25, 1914, they presented their report in the form of a bill of some 500 pages. After a good many amendments had been made to appease conflicting interests the bill was passed and became law April 16, 1914.

In general, the new law marks a decided improvement and shows a commendable spirit of progressiveness. Its framers believe that it is a law which may well become the model for other states, and there are some who say that it is without question the best balanced and most comprehensive state banking legislation which has ever been enacted.

The new law was the outgrowth of the general agitation for banking reform which had swept over this country following the panic of 1907. The inciting cause, however, was the passage of the Federal Reserve

<sup>1</sup> The commission was composed of the following men: A. Barton Hepburn, chairman; Charles L. Bernheimer, Louis Goldstein, John H. Gregory, Frank E. Howe, Joseph French Johnson, Herbert H. Lehman, Randall J. LeBoeuf, Elliott C. McDougal, Leopold Stern, E. P. Maynard, J. T. Mahoney, Charles A. Miller, Frank M. Patterson, John J. Pulley, and John H. Rhoades.

Act which made it necessary to revise the state law so that the state banks either might join the federal system or be in a position to compete successfully against the national banks of the state, whose powers had been considerably enlarged by this act. In part, the law is modelled after the federal act, and, in part, European experience has been drawn upon. In no case has there been slavish imitation, but rather it was the aim of the commission to adapt to the needs of the state the best known banking principles.

Under the new law the state banks will have even more importance in the competition for banking business than in the past. From the point of view of banking power, the 278 banks of deposit and discount and trust companies have aggregate deposits in excess of those of the 479 national banks in the sum of \$281,786,000.<sup>2</sup> Furthermore, it has been estimated that the total resources of the New York state banks are equivalent to 17 per cent of the aggregate resources of all banks in the United States, both state and national.<sup>3</sup> Superiority in banking power is one element in the strong competitive position of the state banks, and another element is the privileges granted to these banks under the new law which, in some respects, are superior to those granted the national banks under the federal law. In view of the fact that the state banks can enjoy either directly or indirectly most of the advantages of the federal system and also that in some particulars the state law gives them more liberal powers, it seems probable that these banks will continue to see an advantage in their state charters; and thus the amount of defection from the state system will be negligible.<sup>4</sup>

More real power has been given to the banking department in the provisions of the law. Through investigation, authorization certificates, and regular uniform reports, the superintendent of banks has more direct control over the banks than ever before. The law gives him authority to supervise not only the well-known banking houses but also the many small private banks. Besides the extension of the supervisory powers, the penal provisions of the act have been strengthened and made more exacting.

1. *Features of the act relating to banks of deposit and discount and trust companies.* The reserves required against deposits were reduced substantially, and made nearly uniform with those required

<sup>2</sup> *Annual Report of the Superintendent of Banks of the State of New York*, Jan. 6, 1915, p. 33.

<sup>3</sup> *Moody's Magazine*, vol. 16, p. 186.

<sup>4</sup> *Cf. New York Times*, Apr. 19, 1914, sec. IX, p. 11, column 6.

for national banks. The following table gives the percentage of reserve required and the percentage of reserve on hand which the new law specifies for these banks.<sup>5</sup>

Population	Banks of deposit and discount Per cent of deposits		Trust companies Per cent of deposits	
	Required reserve	Reserve on hand <sup>6</sup>	Required reserve	Reserve on hand
2,000,000 or over	18	12	15	10
1,000,000—2,000,000	15	10	13	8
Elsewhere in the state	12	4	10	4 or 3

The reserve requirements are made still more definite by the fact that the law compels the banks to keep one half at least of the reserve on hand in "gold, gold bullion, gold coin, United States gold certificates, or United States notes; and the remainder in any form of currency authorized by the law of the United States other than federal reserve notes."<sup>7</sup>

Among the powers granted to these banks is the power "to accept for payment at a future date, drafts drawn upon its customers and to issue letters of credit authorizing the holders thereof to draw drafts upon it or its correspondents at sight or on time not exceeding one year."<sup>8</sup> This clause gives a much wider power to the state banks in the purchase and sale of acceptances than its counterpart in the Federal Reserve Act.<sup>9</sup> In the one case both domestic and foreign acceptances may be bought and sold without stipulation as to aggregate amount and bearing maturities of one year or less, while in the other case the acceptances are limited to those arising out of the importation or exportation of goods with maturities not exceeding six months and limited in amount to one half the paid-up capital and surplus of the bank for which the rediscounts are made. Seemingly, the state banks have the advantage, and to this extent the state law is superior to the federal act.

<sup>5</sup> Bill No. 1830, 3d Rdg. 873. In Assembly, pp. 95, 180.

<sup>6</sup> This refers only to demand deposits. No reserves are required against time deposits.

<sup>7</sup> Bill No. 1830, 3d Rdg. 873. In Assembly, pp. 95, 181.

<sup>8</sup> *Ibid.*, pp. 84, 164.

<sup>9</sup> Irving National Bank, *Complete Text and Analysis of the Federal Reserve Act*, p. 13, sec. 13.

It was under this section of the law that the Guaranty Trust Company and the Equitable Trust Company purchased domestic acceptances in April, 1914. These two purchases constituted the first use of the acceptance in the United States since state courts and the lower federal courts ruled in a number of cases that "a national bank can not make accommodation acceptances and guarantees for the benefit of third persons, even though it received a compensation for doing so."<sup>10</sup> These acceptances were the initial step in the creation in this country of a discount market for prime paper, similar to those existing in London, Paris, Berlin, and other European centers.

One other important forward step was taken in relation to this group of banks. They are given the privilege of establishing branches outside the state of New York, either in the United States or in foreign countries.<sup>11</sup> This privilege is qualified, however, by the provision that no bank can establish such branches unless it has a combined capital and surplus of \$1,000,000 or over and the written approval of the superintendent of banks. In three ways the principle of branch banking has been extended under this act: (1) banks of deposit and discount as well as trust companies may establish branches, (2) branches may be established not only in cities in which the banks are incorporated but in other parts of the United States, and (3) branches may be placed in foreign countries. Although the old law permitted trust companies to establish branches in the places where they were incorporated, the practical effect was to limit branch banking to the city of New York. In this particular also the state banks have the advantage over the banks in the federal reserve system which are allowed to establish branches only in foreign countries.<sup>12</sup>

2. *Features relating to private banks and bankers.* The regulation of private banks and bankers is an entirely new departure in the law of this state. In the past, the superintendent of banks has had supervision of corporations known as "personal loan associations," which loaned on mortgages or personal property to needy persons in sums not exceeding \$200.<sup>13</sup> This, however, did not give the banking depart-

<sup>10</sup> National Citizens League, *Banking Reform* (J. L. Laughlin, editor), p. 94.

<sup>11</sup> Bill No. 1830, 3d Rdg. 873. In Assembly, pp. 94, 179.

<sup>12</sup> Irving National Bank, *Complete Text and Analysis of the Federal Reserve Act*, p. 22, sec. 25.

<sup>13</sup> These associations are compelled to file with the superintendent of banks an organization certificate, execute a surety bond of not less than \$5000, make an annual report, and are subject to the investigation of the banking department at least once each year. *Consolidated Laws of the State of New York*, 1909, pp. 215-216.

ment any authority whatsoever to supervise that relatively large number<sup>14</sup> of private bankers who receive deposits in small amounts from the wage-earning classes while conducting in connection therewith a mercantile or some other kind of business.

The Siegel failure, involving some 15,000 depositors with aggregate deposits of more than \$2,500,000,<sup>15</sup> attracted the attention of the commission to this phase of the private banking business, and resulted in a complete revision of this section of the bill after the commission had practically completed its work and was about to submit the first draft of the bill to the legislature.

Mercantile firms like the Siegel Company, by paying a higher rate of interest upon deposits than savings banks, were able to obtain the savings of many small depositors. This money was invested in the business and secured only by the capital stock of the mercantile establishments. In case the firm failed there was no security back of these deposits but these same shares of stock, and so depositors were fortunate if they received in settlement even 40 per cent of their claims.<sup>16</sup> Such firms were not doing a legitimate banking business inasmuch as they did not keep their assets in liquid form and carried no reserve against deposits.

The new act corrects this situation by giving the banking department authority to conduct independent investigations into any violation of the banking law by a corporation or individual.<sup>17</sup> In the future a corporation which is in any way engaged in the business of banking can not hide under the wing of the general corporation law when the banking department sees fit to make an investigation of its affairs.

Private bankers are thrown into two classes by the provisions of the act: (1) those who are subject to certain special requirements, and (2) those who are exempt from these special requirements of the private banking section of the statute but are subject to the general supervision and control of the banking department. Large brokerage firms which transact also a banking business and private bankers whose place of business is in the small towns or incorporated villages of the state are exempt from the provisions of this section of the act. The first, on the ground that business houses or individuals transacting

<sup>14</sup> In 1909 New York state had 902 private banks. Barnett, *State Banks and Trust Companies Since the Passage of the National Bank Act*, table opposite p. 250 (National Monetary Commission, S. Doc. No. 659, 61 Cong., 2 Sess.).

<sup>15</sup> *New York Times*, Jan. 9, 1914, p. 10, column 3.

<sup>16</sup> In March 1914 the Siegel firm offered to pay off all depositors at the rate of 40 cents on the dollar. *New York Times*, Mar. 12, 1914, p. 1, column 8.

<sup>17</sup> Bill No. 1830, 3d Rdg. 873. In Assembly, pp. 28, 30.

business with these firms are so well acquainted with the conditions that legitimately they can be held to take the risk incident thereto; the second, on the ground that the private banking business in the small towns is carried on "in the open" and therefore special provision for the protection of depositors is not needed.<sup>18</sup>

The specifications of this part of the law are: (1) every private banker must file a verified certificate in duplicate with the banking department giving the names and residence of each member of the partnership or association, the amount of permanent capital invested in the business, the place of business, and the amount of deposit on which such banker pays or credits interest; (2) all securities, property and the evidences of title thereto in which the permanent capital and the deposits are invested are to be segregated and kept separate from all other property and assets of the private banker; (3) depositors have a prior lien on the assets of the private banker in case of insolvency or suspension of business; (4) every private banker, unless exempt from the provisions of this section of the act, must deposit registered stocks and bonds of the kind acceptable for the investments of savings banks in an amount equal in value to at least 10 per cent of the total deposits held and in any case of a value not less than \$5000; and (5) in addition, every private banker must maintain a reserve of 15 per cent against deposits in cities of the first class and a reserve of 10 per cent in any other city, one tenth of which shall consist of reserve on hand and the remainder may be kept on deposit subject to call with banks approved by the superintendent of banks.<sup>19</sup>

These requirements will go far toward preventing the recurrence of such disasters as the Siegel failure. By incorporating in the law these features relating to the control of private bankers, notwithstanding the active opposition of these same bankers, the legislature has entrusted the banking department with the supervision of banking interests which effect vitally the happiness and well-being of large groups of people in this state.

3. *Features relating to savings banks.* The most important change in the savings bank section of the law is the requirement that every savings bank shall carry a guarantee fund. As applied to savings banks formed after the passage of the law this guarantee is in part an initial guarantee of the incorporators. For the purpose of protecting its depositors against loss, whether arising from shrinking

<sup>18</sup> *Annual Report of the Superintendent of Banks of the State of New York*, Jan. 6, 1915, pp. 7-8.

<sup>19</sup> Bill No. 1830, 3d Rdg. 873. In Assembly, pp. 134-147, 149.

market value of the securities in which its funds are invested or otherwise, every new savings bank must create an initial guarantee fund. The law requires the incorporators or trustees to make an original deposit of at least \$5000, and also to enter into an agreement, protected by a surety bond, with the superintendent of banks to furnish further sums in cash to the guarantee fund whenever this is necessary to insure the solvency of the savings bank and to render it safe for it to continue business.<sup>20</sup>

In addition to this initial guarantee, every savings bank, whenever incorporated, must provide a fund for the protection of its depositors which shall be used for the purpose of securing such depositors against any contingency or loss arising in its business, and for no other purpose. This is acquired by crediting to such fund the surplus of the savings bank, the contributions of its incorporators or trustees, and certain amounts from its net earnings. In regard to the contributions from net earnings the law specifies the following:

If at the close of any dividend period the guaranty fund of any savings bank be less than ten per centum of the amount due depositors, there shall be deducted from its net earnings for such period and credited to its guarantee fund five per centum of its net earnings during the year 1914; six per centum during the year 1915; seven per centum during the year 1916; eight per centum during the year 1917; nine per centum during the year 1918; ten per centum during the year 1919; and ten per centum during any year thereafter in which a dividend shall be declared or so much of such percentage as will not compel it to reduce its dividend to depositors below the rate of three and one-half per centum per annum.<sup>21</sup>

It is anticipated that these requirements of the guarantee fund will make trustees and incorporators more responsible, will offer more protection to the depositors, will lead to larger saving bank deposits and will set at rest the much disputed question of the surplus.

4. *Features relating to coöperative credit.* Within the last thirty years the agricultural methods of the state, in harmony with the agricultural methods throughout the United States, have undergone great changes. Scientific farming, improved machinery, and changed market conditions have brought new problems in the field of agricultural credit. Today agriculture has come to be in a very real sense capitalistic and has in consequence laid new requirements on the credit structure of the nation. Moreover, the period of large returns or satisfactory returns from an extensive and rather careless cultivation of the soil, which made possible an ignoring of unit cost or, at least,

<sup>20</sup> Bill No. 1830, 3d Rdg. 873. In Assembly, p. 213.

<sup>21</sup> *Ibid.*, In Assembly, pp. 245-246.



brought the farmer to minimize the importance of such cost, has given way, so far as the successful farmer is concerned, to the careful estimates of cost and close calculations of profits on a narrow margin between unit cost and unit selling price.

In the field of cost, the rate at which capital or money may be borrowed is no small factor; and with the high rates prevailing in the United States in comparison with those current in Europe,<sup>22</sup> the borrower in this country who pledges his land or agricultural products as security for a loan finds himself at a disadvantage. To meet this condition cheaper agricultural credit has been strongly urged. Europe furnishes the example in her well-organized land banks and coöperative credit unions. Already Massachusetts has a law authorizing coöperative organizations for furnishing cheaper credit facilities to the agriculturalist,<sup>23</sup> and in Illinois there is a "credit foncier" which has been in successful operation a number of years.<sup>24</sup> In a private way, the Jewish Agricultural and Industrial Aid Society has done most excellent work in initiating the coöperative credit idea in this country.<sup>25</sup> New York state has put itself in line with this growing movement to furnish ample and cheaper credit to the farmer and the purchasers of real estate by putting into the new law provisions for the establishment of a land bank and coöperative credit unions.

Sections 421-438 authorize ten or more savings and loan associations, the aggregate resources of which shall not be less than \$5,000,000, to form a Land Bank of the State of New York. This bank can "issue, sell and redeem debenture bonds secured by bonds and first mortgages made to or held by member associations" and "invest its capital and other funds in bonds secured by first mortgages of real estate situated within the territory in which its members are authorized to make loans." The bank is not permitted to do a general deposit business or incur any indebtedness upon notes and bonds in excess of twenty times the

<sup>22</sup> Herrick, *Preliminary Report on Land and Agricultural Credit in Europe*, p. 33. (Washington, Gov. Prtg. Office, 1912.)

<sup>23</sup> Although 22 coöperative credit unions had been organized in Massachusetts up to March 14, 1912, not a single one was among farmers. Kemmerer, "Agricultural Credit in the United States," *AMERICAN ECONOMIC REVIEW*, vol. 2, p. 869 (note).

<sup>24</sup> A trust company in Joliet which is under the supervision and subject to the examination of the state banking department loans money on farms and homes within the limits of the state by the sale of mortgage bonds which are direct obligations of the company. These bonds are paid at the expiration of thirty years through the amortization plan. *Literary Digest*, vol. 46, pp. 422-423.

<sup>25</sup> Kemmerer, "Agricultural Credit in the United States," *AMERICAN ECONOMIC REVIEW*, vol. 2, p. 868.

amount of its capital.<sup>26</sup> The debenture bonds authorized by the act are to be issued in series of not less than \$50,000 and may be called on any interest day at 102½ provided a sixty-day notice is given. Amortization payments upon mortgages which are given as collateral security for the debentures of the land bank shall be sufficient to liquidate the debt in a period not exceeding forty years.<sup>27</sup>

In article XI the law provides for the establishment of credit unions.<sup>28</sup> A credit union may be organized by any seven or more persons with a share capital the par value of which shall not exceed \$25.<sup>29</sup> The objects of the credit union are: (1) to loan money in small amounts on personal security or in larger amounts on endorsed notes at rates not exceeding one per cent per month, inclusive of all charges incident to the making of such loans; (2) to receive the savings of its members in payment of shares or on deposit; (3) to borrow money to an amount not to exceed 40 per cent of its capital; (4) to pay dividends on its share capital.<sup>30</sup> As to the method of making loans, the law prescribes that a credit committee shall pass upon all applications for loans which must be made in writing and must state the purpose for which the loan is desired and the security offered. No loan will be made unless it receives the unanimous approval of the members of the committee present at the meeting, provided always a majority of the committee is present.<sup>31</sup>

With the land bank acting as a central clearing agency for the local savings and loan associations and the organization of many rural credit unions the problem of agricultural credit will be largely solved for New York state. This, however, all hinges on the proper functioning of the land bank and the coöperation of the farmers in the establishment of local credit unions. Agriculturalists as a class are slow to adopt new methods and it may be only after prolonged education that all the possibilities of this new legislation will be realized. But in the mean time it is a gain to have on the statute books of the state progressive banking legislation which offers to the rural sections of the state the chance to obtain adequate credit facilities.

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EVERETT W. GOODHUE.

<sup>26</sup> Bill No. 1830, 3d Rdg. 873. In Assembly, pp. 371-375.

<sup>27</sup> *Ibid.*, pp. 377-378.

<sup>28</sup> Up to Jan. 6, 1915, only two unions had been formed, but the superintendent of banks has several under advisement. *Annual Report of the Superintendent of Banks of the State of New York*, Jan. 6, 1915, p. 12.

<sup>29</sup> Bill No. 1830, 3d Rdg. 873. In Assembly, p. 384.

<sup>30</sup> *Ibid.*, pp. 387-388.

<sup>31</sup> *Ibid.*, p. 397.

C. W. Thompson has prepared for the Office of Markets and Rural Organization of the federal Department of Agriculture a bulletin *How Farmers May Improve their Personal Credit* (Washington, Apr. 3, 1915, pp. 14).

Bulletin No. 164 of the federal Bureau of Labor Statistics relates to *Butter Prices, from Producer to Consumer* (Washington, Nov. 30, 1914, pp. 59).

From the National Federation of Remedial Loan Associations has been received: *Work of the Remedial Loan Societies, 1913-1914*; and bulletin for December, 1914, containing the *Proceedings of the Sixth Annual Convention*, at Philadelphia, July 9-11, 1914 (pp. 66). These may be obtained from the secretary, R. R. Stevens, 50 Union Square, New York City.

With these should be noted *The Loan Shark Campaign*, by Malcolm W. Davis, reprinted from the *New York Evening Post* for April 11, 1914, to be obtained from the Division of Remedial Loans of the Russell Sage Foundation (pp. 8).

#### Public Finance

*The First Annual Report of the Federal Reserve Board*, December, 1914 (Washington, pp. 218) contains not only the text of the report but copies of circulars and regulations which have been issued from time to time.

The Bureau of the Census has prepared an *Abstract of Special Bulletins: Wealth, Debt, and Taxation, 1913* (Washington, 1915, pp. 63) which is based upon seven bulletins dealing with: "Assessed valuation of property and amounts and rates of levy: 1860-1912"; "National and state indebtedness and funds and investments: 1870-1913"; "County and municipal indebtedness: 1913, 1902, and 1890; and sinking fund assets: 1913"; "Taxation and revenue systems of state and local governments"; "National and state revenues and expenditures: 1913 and 1903; and public properties of states: 1913"; "County revenues, expenditures, and public properties: 1913"; and "Municipal revenues, expenditures, and public properties: 1913."

The address before the council of the Chamber of Commerce of the United States of America, at Washington, February 2, 1915, by Harvey S. Chase, on *A National Budget—Of What is it Composed?* has been printed as a separate.

From the Office of Public Roads of the federal Department of Agri-

culture has been received a pamphlet on *Highway Bonds: A Compilation of Data and an Analysis of Economic Features Affecting Construction, and Maintenance of Highways Financed by Bond Issues, and the Theory of Bond Circulations*, by L. I. Hewes and J. W. Glover (pp. 136).

The Commission on Economy and Efficiency of Massachusetts has prepared a substantial volume of more than 500 pages on *Functions, Organization, and Administration of the Departments in the Executive Branch of the State Government* (Boston, Nov., 1914).

A reprint has been prepared from the *Real Estate Magazine* of January, 1915, of an article on *One Year of City Management in Dayton, Ohio*, by L. D. Upson (Bureau of Municipal Research, Dayton). The same bureau also has for circulation a pamphlet on *The Budget of the City of Dayton, 1915. As Enacted by the City Commission, February 6, 1915* (pp. 52).

Mr. William B. Ellison has issued a small pamphlet on *Financial Problems of the City of New York* in which he brings together useful statistical tables relating to the growth of expenditures (pp. 12).

*A Report on Special Examination of the Accounts and Methods of the Office of Coroner in the City of New York* has been issued from the office of the commissioner of accounts (Leonard Wallstein, Jan., 1915, pp. 82).

The United States Mortgage and Trust Company of New York has made *A Compilation of the Laws of Various States on Registration and Transfer of Municipal Bonds* (Oct., 1914, pp. 41).

The Single Tax Information Bureau (90 West St., New York) has issued in a small booklet a reprint of certain chapters from the writings of Henry George on *The Canons and First Principles of Taxation*.

The Broadway Trust Company (Woolworth Bldg., New York) publishes a revised edition of its pamphlet on *Practical Questions and Answers Concerning the Income Tax Law* (pp. 32).

The Department of Social Economics of the London Municipal Society (2 Bridge St., Westminster, S.W., London) in its issue for March, 1915, deals with *The Income Tax Returns of 1913-14* (pp. 7).

*A Report on Revenue and Finance Administration*, by Professor John A. Fairlie, prepared for the Efficiency and Economy Committee created by the General Assembly of Illinois (1914, pp. 103), contains an extended chapter on the administration of the general property tax

and a review of finance administration in other states and countries. The document deals more particularly with administrative problems.

*A Report on Proposed Conversion of State Sinking Fund Bonds by Issue of Serial Bonds*, prepared by the Commission on Economy and Efficiency of Massachusetts, has been published as House Document No. 1650 (Boston, Jan. 14, 1915, pp. 24).

The *Seventh Annual Report of the Statistics of Municipal Finances* of Massachusetts (Boston, 1914, pp. xxxviii, 301) contains for the first time a complete compilation for all the municipalities of the commonwealth.

The Ohio Legislative Reference Department has published a bulletin entitled *Report of the Committee for an Investigation of Finances of Municipalities* (Feb. 3, 1915, pp. 41).

Relating to taxation, the following pamphlets and reports are to be noted:

The *Report of the State Board of Equalization for 1913-1914* (Sacramento, pp. 237). This contains copies of papers read at the twelfth and thirteenth annual conventions of the County Assessors Association of California, among which is to be noted a paper on "The federal income tax," by Professor Plehn.

*Third Annual Report of the Board of Tax Commissioners of Rhode Island*, January 15, 1915 (Providence, pp. 69).

*Report of Committee to Investigate Assessment and Taxation of Tennessee* (Nashville, 1915, pp. 108).

*Sixth Report of the Tax Commissioner of the State of Texas* for 1914 (Austin, 1915, pp. 98).

*Biennial Report of the Commissioner of Taxes of the State of Vermont for the Two Years Ending June 30, 1914* (pp. 352).

*Report of the Joint Committee on Tax Revision* of Virginia (Richmond, 1914, pp. 298) which contains chapters on taxation of real estate in Virginia, taxation of personal property, license laws and taxes, public service corporations, taxation of insurance companies, taxation of banks and trust and security companies, with recommendations.

*Fifth Biennial Report of the State Board of Tax Commissioners of Washington* (Olympia, 1914, pp. 133, 13, 95, 91).

*Seventh Biennial Report of the Wisconsin Tax Commission* (Madison, 1914, pp. 189) in which there is a general review of property taxation and chapters devoted to full value assessment, income tax, uniform municipal accounting, inheritance tax, and taxation of public service corporations.

The Massachusetts Tax Association has for circulation a little pamphlet on *The Taxation Crisis of Massachusetts and How to Meet It*. (Malcolm E. Nichols, 18 Tremont St., Boston, pp. 14).

The North Dakota Tax Association, in Bulletin No. 8, December, 1914, publishes a statistical table in regard to the state tax levy; and in Bulletin No. 9, January, 1915, deals with the municipal debt in North Dakota.

Mr. Lewis H. Machen, director of the Legislative Reference Bureau of Virginia, has compiled *A Summary of Tax Systems, Boards, and Methods of Equalization of the Several States* (Richmond, 1914, pp. 29).

The National Tax Association (15 Dey St., New York) has for circulation *Preliminary Report of the Efficiency and Economy Commission* of Minnesota, dealing in part with the budget system in appropriations.

This association has also prepared a bulletin, *The Taxation Problem*, summarizing the work of the association for the ninth year, 1914-1915; and a pamphlet on *Cash Value Assessments Required by the State Constitution*, being a discussion of the assessment problem and an outline of a plan for coöperation between the board of state tax commissioners and the local assessing officers (pp. 13).

The report of the *Second Annual Conference on Taxation in Indiana* is published as an Indiana University bulletin (Vol. XII, No. 15, Jan. 15, 1915, pp. 192, University Bookstore, Bloomington, Ind., 25c.). Papers are grouped under the following headings: public expenditures; effect of high tax-rates; what other states are doing; and the remedy in Indiana. Among the papers are to be noted: "Some phases of taxation in Minnesota," by Professor James W. Putnam of Butler College; "The operation of the new tax system in Ohio," by Professor O. C. Lockhart; and "The revenue systems of New York and Pennsylvania," by Professor F. T. Stockton.

### Demography

*Mortality Statistics, 1913*, fourteenth annual report issued by the Bureau of the Census (Washington, 1915, pp. 631), is modeled like its predecessors. Virginia is added to the registration area. The summary of rate tables for 1912, which were omitted from the report for that year, are now given.

The Children's Bureau of the United States Department of Labor

has issued a study in *Infant Mortality*, the results of a field study in Johnstown, Pa., based on births in one calendar year, prepared by Emma Duke (Washington, Infant Mortality Series No. 3, pp. 93, plates 9 pp.). This is one of the most exhaustive and intensive studies yet made for an American town. The data of infant mortality are analyzed according to environment, including sanitary conditions, nationality, character of mothers, methods of feeding, sex, economic factors, as, for example, the earnings of the father; and several pages are devoted to reproductive histories.

The speeches of Senator William B. Dillingham in regard to *Regulation of Immigration*, delivered December 29, 1914 (pp. 29) and *President Wilson's Veto of the Immigration Bill*, February 11 and 12, 1915 (pp. 46), have been reprinted in pamphlet form.

The Immigration Restriction League has issued No. 64 which deals with *Immigration Figures for 1914*, making a comparison with the year 1913 (Boston, pp. 4).

From the Committee for Immigrants in America (95 Madison Ave., New York) has been received a pamphlet *Immigrants in America: Program for a Domestic Policy*, by Frances A. Kellor (pp. 21).

No. 4 of the Reports of Social Investigation, edited by the faculty of the School of Social Economy of Washington University, relates to the subject of *Illegitimate Births in St. Louis* and was prepared by George B. Mangold and Lou. B. Essex (St. Louis, 1914, pp. 27, 25c.). From 750 to 775 illegitimate births occur annually in St. Louis, of which about one fifth are black and four fifths are white. Of the mothers, one fifth are under eighteen years of age and the majority are under 21. The authors make certain recommendations as to the change of laws dealing with the age of consent, bastardy, the poor law, and provision for maternity homes.

### Social Problems

The federal Bureau of the Census has published a *Summary of State Laws relating to the Dependent Classes, 1913* (Washington, 1914, pp. 346). The summary epitomizes and classifies for each state the laws governing the administrative and supervisory agencies dealing with the dependent classes; the laws relating to the conditions and methods of poor relief, institutional and outdoor; and the provision made for special classes—children, sick, blind, deaf, insane, feeble-minded, epileptic, inebriate, and soldiers, sailors, and marines. It is not in-

tended as a complete or authoritative digest, but as an outline of the more important features of the laws in force in the various states in the year 1913.

The Bureau of the Census has also issued recently a special report on *Paupers in Almshouses* (Washington, 1915, pp. 141), based upon data collected for the census of 1910, which reproduces and amplifies the material contained in Bulletin 120, issued some time ago. The statistics relate to age, sex, race or color, parentage, place of birth, marital condition, literacy, occupation prior to admission, fecundity of females, capacity for work, presence of mental or physical defects, legitimacy of children, length of stay in institution, etc., for inmates of almshouses, with ratios, percentages, diagrams, and text discussion. Condensed data are given for each individual almshouse in the United States. Not the least interesting feature of the report is a comparison between the ratios of almshouse pauperism among natives and among immigrants of various nationalities.

The *First Annual Report of the Commission of Immigration and Housing of California*, January 2, 1915 (Underwood Bldg., San Francisco, pp. 123) contains chapters on labor camp inspection, housing, immigrant education, and unemployment. On pages 115-117 is a bibliography of reports prepared by investigators of the commission, which are on public file at the San Francisco office of the commission.

Professor Raymond V. Phelan of the University of Minnesota has prepared a syllabus of topics dealing with the subject of *Community Centers* (Minneapolis, Bulletin of the University of Minnesota No. 25, Jan., 1915, pp. 15).

The United States Steel Corporation issues as Bulletin No. 5, the Panama Pacific number, presenting illustrations of the exhibit of the Bureau of Safety and Welfare at the Panama Pacific Exposition (pp. 105).

The Bureau of Municipal Research of the Minneapolis Civic and Commerce Association has recently completed a survey of the business administration of the Minneapolis public schools and submitted a report to the Board of Education, which has been accepted. The REVIEW has received a typewritten copy of this report. Though primarily of interest to students of administration, it contains illustrations in the field of finance.

The *Report of the State Board of Education of New Jersey for 1913* (Trenton, 1914, 2 vols., pp. 197, 212) contains a report on vocational education.



The *Sixteenth Biennial Report of the Bureau of Labor Statistics of Iowa* (Des Moines, 1914, pp. 308) contains a report of a vocational training analysis (p. 249); 422 establishments, which reported 40,134 persons employed, showed only 915 employees in actual training for positions of advanced skill and for positions of foremen, superintendents and department heads.

The Vocation Bureau of Boston (6 Beacon St.) has published a small pamphlet on *Vocational Guidance and the Work of the Vocation Bureau of Boston* (pp. 14). This contains a list of the bureau's publications and also projected studies.

A paper by W. F. Book, deputy state superintendent of Indiana in charge of vocational education, on *Suggestions for the Study of Vocational Education in Township Institutes* for 1914-1915 (pp. 40), contains three pages of selected bibliography on vocational education as well as syllabuses on various topics.

### Insurance

THE INDIANA WORKMEN'S COMPENSATION ACT. The general assembly of Indiana adopted the Sare workmen's compensation bill, which was approved by Governor Ralston on March 8, 1915. The act applies generally to all employees in the state except casual laborers, farm laborers, and domestic servants. Both employers and employees, however, after giving due notice not to accept the act, may be relieved from its operations. When an employer refrains from acceptance he is denied the usual common law defenses in case an employee is injured. On the other hand, when an employee prefers non-acceptance, the employer is allowed to set up a defense at common law if such employee suffers accident. Every employer operating under the act must insure his risks with a corporation or association authorized to transact the business of workmen's compensation insurance in Indiana, or with a mutual or reciprocal insurance association, or he may carry his own risks if satisfactory proof of his financial ability to do so can be offered.

The administration of the act is vested in the Industrial Board of Indiana composed of three members appointed by the governor. The board also takes over the powers and duties of the State Bureau of Inspection. Awards made by the board can be reviewed by the appellate court, only on errors of law. Compensation for injuries is limited to 55 per cent of the average weekly earnings of the employee, for periods of time varying with the degree of injury. Such average

weekly earnings are not to exceed \$24 nor be less than \$12. Provision is also made for medical attendance, together with hospital and funeral expenses. In no case is compensation to exceed \$5000. Industrial diseases are excluded from the scope of the act.

*Indiana University.*

FRANK T. STOCKTON.

SURVEY OF INDUSTRIAL HEALTH-HAZARDS AND OCCUPATIONAL DISEASES IN OHIO. In conformity to an order of the legislature of Ohio an investigation running over two years has been made and the results embodied in *A Survey of Industrial Health-Hazards and Occupational Diseases in Ohio* (Columbus, Ohio State Board of Health, February, 1915, pp. 438, 101 illustrations). There were nine principal investigators, exclusive of Dr. Hayhurst, director of the survey, and five associates who made special investigations or conducted special researches.

The field work was conducted according to definite plans. The processes investigated were divided into two groups: General Processes and Special Processes, the latter being peculiar to certain industries. Each process is briefly described and discussed from the point of view of its effects upon health. The report is unique, and in this respect exceedingly valuable in that it shows the application of about a dozen well-defined health-hazards to these occupational processes. This is the keynote of the work.

The indefinite relationship between health-hazards and general diseases has been critically studied by Dr. Hayhurst, who has ventured to express an opinion, in as many cases as possible, as to the probable effect of occupational conditions and processes on health, other than those conditions or processes which are known to give rise to specific disorders or diseases. This he has done consistently with our present-day knowledge of pathological conditions and the causes of the occupational conditions. His list of occupational health-hazards comprises dust and dirt, dampness, darkness, devitalizing air, temperature, fatigue, inactivity, infections and poisons. He discusses the physical adaptation to health-hazards and points out the distinction between the physiological normal and the toleration of such hazards. He believes that the misconception of the ability of persons to become accustomed to occupational health-hazards is responsible for a large percentage of preventable sickness and mortality, *e.g.*, tuberculosis, cancer, rheumatism, circulatory diseases, Bright's disease, and skin diseases. He states that deaths occurring under 70 years of age from circulatory or heart diseases should be considered preventable.

In Ohio in 1912 over one sixth of all deaths were due to circulatory diseases and one eighth of all deaths to organic heart disease alone. As a cause of death tuberculosis has been almost doubly outstripped by these chronic degenerative diseases, 58 per cent of which have occurred before 70 years of age, and 20 per cent of which have occurred before 50 years of age.

The total number of cases of positive occupational diseases and disabilities discovered during the investigation was 1204. In addition to these positive cases, some 200 others were tentatively diagnosed as occupational disorders. Among the cases enumerated, 544 positive and 138 tentative diagnoses of lead poisoning were made; 301 cases of positive tuberculosis and 21 probable cases discovered; 117 known cases of "brass chills"; 41 positive cases of occupational dermatitis; and 33 positive cases of benzine and benzol poisoning.

An important constructive feature of the report is a description under each process of the corrective measures designed to meet the hazardous conditions.

Dr. Hayhurst calls attention to the fact that the Occupational Disease Reporting law has proved very much of a failure, and that most of the cases of disease and disability discovered were the findings of the special staff of physician-investigators. The occupational diseases and disabilities reported from all sources are carefully tabulated by industries, occupational processes, types and numbers of cases. For convenience to the reader an alphabetical list of such diseases and disabilities is also given.

In addition to a few historical notes and a brief discussion of the principles of industrial hygiene, the author has included, for educational purposes, a chapter on the Causes, Diagnosis and Prevention of Lead Poisoning; and one by Charles R. Parkinson on The Standardization of a Method for the Detection of Lead in Urine. There is also included a description, by the author and Professor Ernest Scott, of Four Cases of Sudden Death in a Silo.

The report is full of ideas and suggestions for further and more comprehensive study of all aspects of the subject. The author is to be congratulated for his departure from the stereotyped methods of presenting the known or probable effects of occupation on health, and in insisting that accepted standards be defined and adopted for all occupational conditions so as to give a definite relationship between generally recognized health-hazards and all diseases or disabilities.

The report contains many well-chosen illustrations showing occupational processes, health-hazards, industrial diseases or disabilities, health appliances and protective devices, model factory conditions, emergency equipment and rest rooms. It is well indexed with cross-

The black areas indicate weights, or counter-weights, the equilibrium of which corresponds to the "equation of exchange."  
These black areas from left to right represent:

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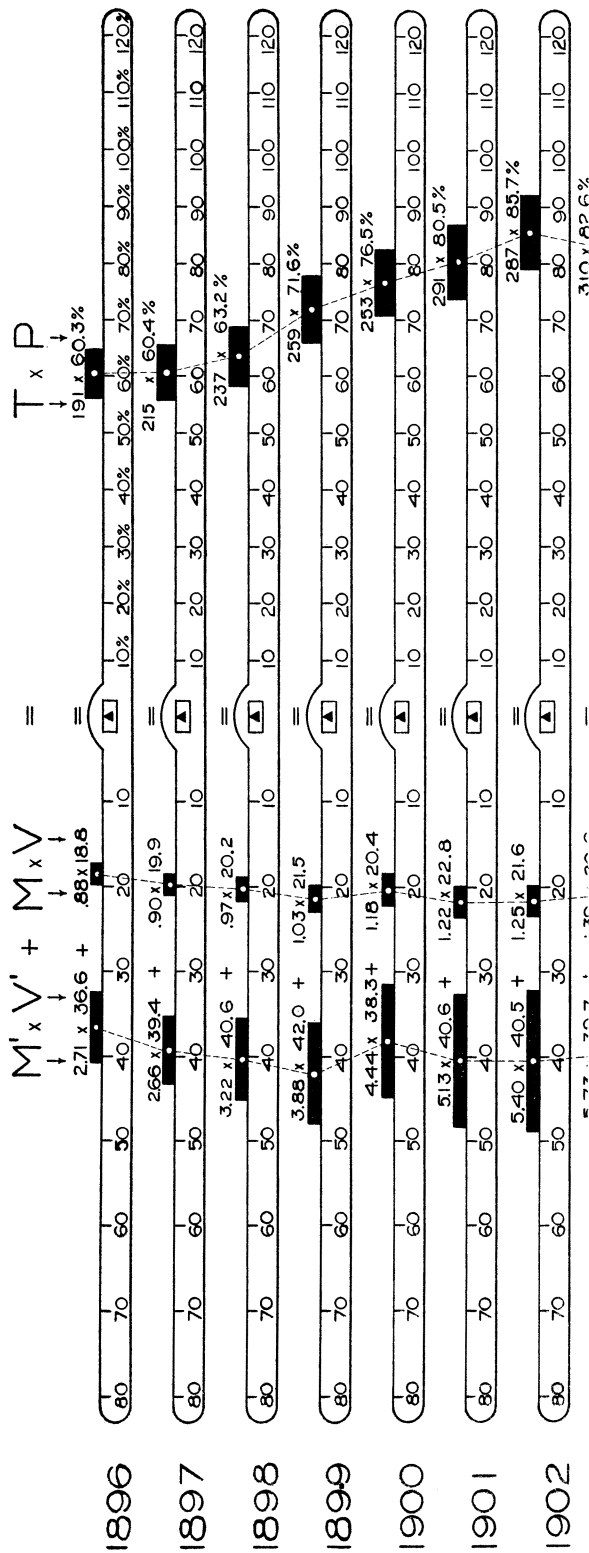
T, i.e., the volume of trade circulated in billions of "units" (each "unit" being that quantity which could be purchased for one dollar in 1909).

The *lever arms* of the above three weights represent:

V', i.e., the velocity of circulation ("activity") of the deposits, M'.

V, i.e., the velocity of circulation of the money, M.

P, i.e., the index number, or scale of prices, at which the trade, T, is conducted. (This scale of prices is measured as a percentage of the scale of prices of 1909.)





EQUATION OF EXCHANGE FOR SIX PERIODS IN 1914

(V', V, and T have been multiplied by twelve, to convert them from rates per month to rates per year.)

1914												T x P											
JAN.																							
$M' \times V' + M \times V =$																							
$\begin{matrix} 9.12 \times 53.5 \\ \downarrow \end{matrix} + \begin{matrix} 1.77 \times 19.4 \\ \downarrow \end{matrix} =$																							
80	70	60	50	40	30	20	10					496 x 105.2%	100	110	120								
MAR.																							
$\begin{matrix} 9.16 \times 48.9 \\ \downarrow \end{matrix} + \begin{matrix} 1.80 \times 17.8 \\ \downarrow \end{matrix} =$																							
80	70	60	50	40	30	20	10					460 x 104.2%	100	110	120								
JUNE																							
$\begin{matrix} 9.34 \times 47.0 \\ \downarrow \end{matrix} + \begin{matrix} 1.73 \times 17.1 \\ \downarrow \end{matrix} =$																							
80	70	60	50	40	30	20	10					459 x 102.2%	100	110	120								
SEPT.																							
$\begin{matrix} 9.27 \times 38.4 \\ \downarrow \end{matrix} + \begin{matrix} 1.89 \times 13.9 \\ \downarrow \end{matrix} =$																							
80	70	60	50	40	30	20	10					356 x 107.3%	100	110	120								
OCT.																							
$\begin{matrix} 8.77 \times 45.1 \\ \downarrow \end{matrix} + \begin{matrix} 2.06 \times 16.4 \\ \downarrow \end{matrix} =$																							
80	70	60	50	40	30	20	10					415 x 103.6%	100	110	120								
DEC.																							
$\begin{matrix} 7.72 \times 54.5 \\ \downarrow \end{matrix} + \begin{matrix} 2.36 \times 19.8 \\ \downarrow \end{matrix} =$																							
80	70	60	50	40	30	20	10					459 x 102.1%	100	110	120								

reference abbreviations. In the index are special lists covering the forms of dust, occupational complaints, diseases and poisons reported as hazards.

W. C. HANSON.

The report on *Workmen's Compensation* dealing with the operation of state laws and containing the findings of the Commission of the American Federation of Labor and the National Civic Federation is published as Senate Document No. 419, 63 Cong., 2 Sess. (pp. 255).

The National Civic Federation has issued a *Memorandum of Suggestions upon Main Provisions Requisite to an Adequate Workmen's Compensation Law* (New York, Metropolitan Tower, Jan., 1915, pp. 6).

There has been received recently the *Report of the Workmen's Compensation Commission* of Tennessee together with a draft of a bill (pp. 83).

An article entitled *What Should be the Principal Provisions of a Workmen's Compensation Act? An Analysis and a Suggestion*, by Magnus W. Alexander of the General Electric Company at West Lynn, Mass. (pp. 24), has been issued by the Conference Board of Safety and Sanitation, composed of representatives of different manufacturing associations. It is interesting to note in this connection that Mr. Alexander had much to do with a draft of the law for the state of Indiana which has recently been enacted in that state.

Dr. I. M. Rubinow has reprinted from the *Journal of the American Medical Association* (535 North Dearborn St., Chicago) his article on *Social Insurance and the Medical Profession* (pp. 18).

The New York Association for Improving the Condition of the Poor has published a pamphlet *Shall Widows be Pensioned?* It is a report of the service rendered by this association to 474 widows with dependent children (105 East 22d St., New York, pp. 39).

A pamphlet volume contains the *Proceedings of the National Convention of Insurance Commissioners*, Asheville, N. C., September 15-18, 1914, and of the adjourned meetings in New York, December 15, 1913, and in Chicago, April 15, 1914 (pp. 257).

The Insurance Society of New York has printed the following pamphlets: *Unusual and Interesting Fire Loss Claims*, by W. R. Pitcher (pp. 17); *What is a Fire Loss?* by W. N. Bament (pp. 25); *Appraisal of Fire Losses*, by W. O. Robb (pp. 18); and *Cash Value*, by L. C. Williams (pp. 14).

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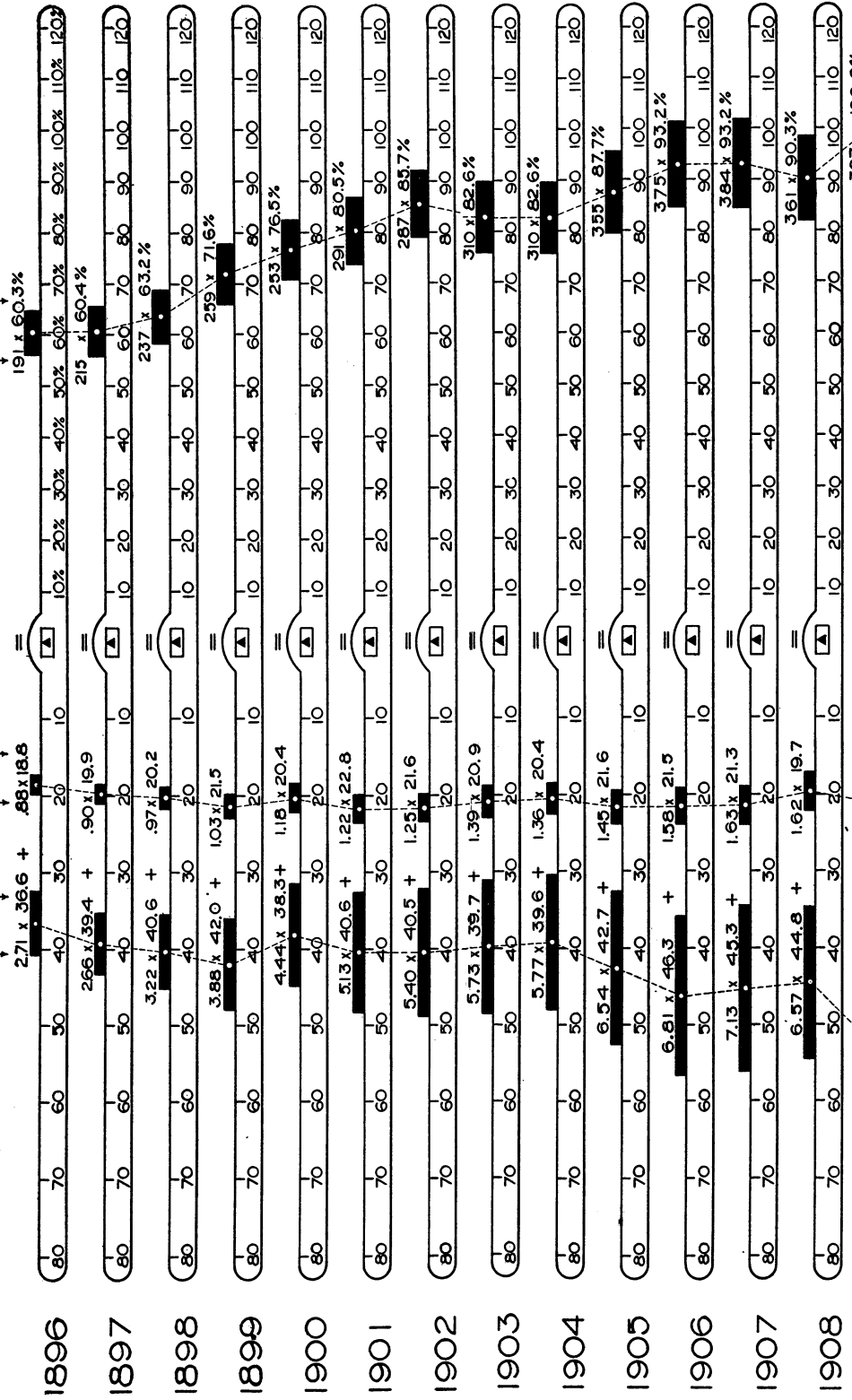
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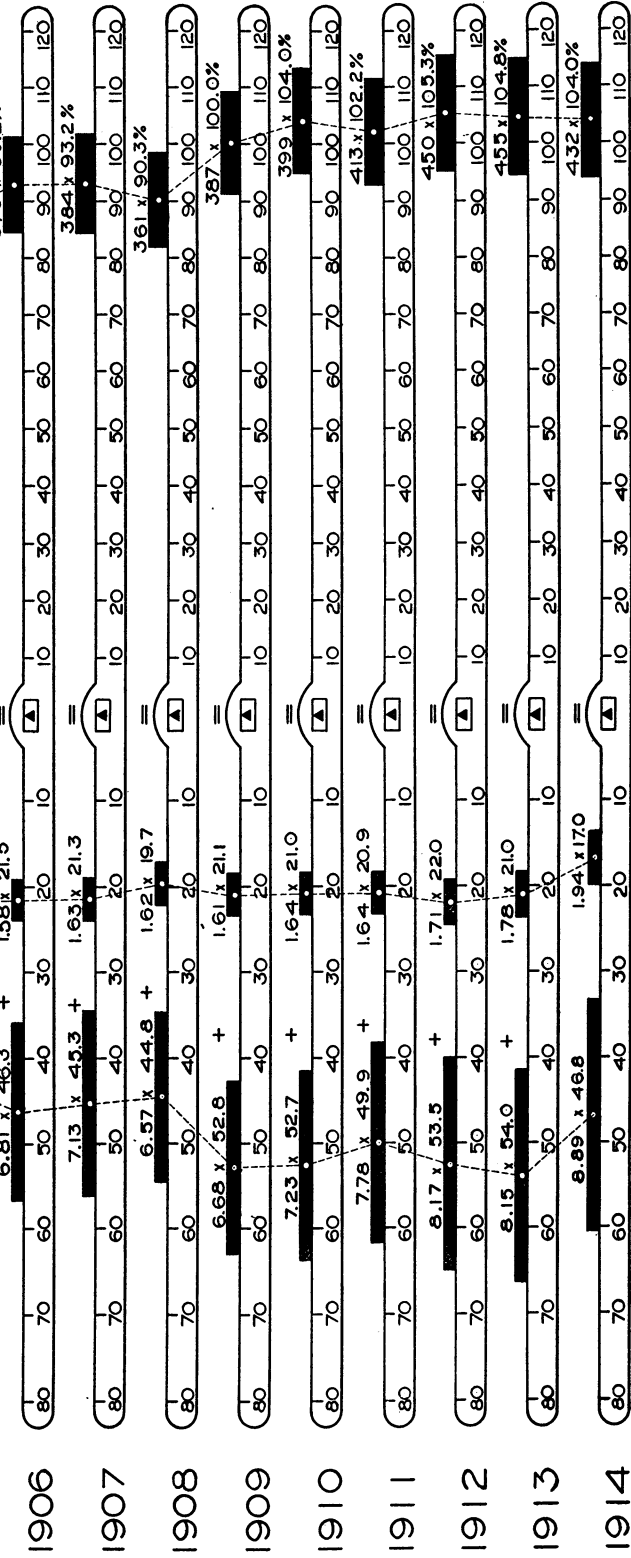
V, i.e., the velocity of circulation of the money, M.

P, i.e., the index number, or scale of prices, at which the trade, T, is conducted. (This scale of prices is measured as a percentage of the scale of prices of 1909.)

$$M' \times V' + M \times V = T \times P$$







(V', V, and T have been multiplied by twelve, to convert them from rates per month to rates per year.)

